

RECORDS ^{OF} THE PAST

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VOL. I



PART VIII

AMELIA BLANFORD EDWARDS

BY WILLIAM COPLEY WINSLOW, D.D., LL.D., D.C.L.

NOT in our century, perhaps not in all time, has a more versatile woman than Miss Amelia B. Edwards, Ph.D., L.H.D., LL.D., appeared. As an Egyptologist she was many-sided; she knew Egypt personally, and its history completely; she particularly mastered the literature of research and exploration, and caught the freshest news of every discovery; and as the *Saturday Review* said: "No other writer did so much to render Egypt popular. Hers was preeminently the role of interpreter." Yet Miss Edwards was profoundly interested in discoveries that cast light upon philological and ethnical questions that related to the sciences as well as the arts of Egypt and contemporary nations, and she had a fair knowledge of the hieroglyphic text. She was the first person to identify the Cypriote and Phœnician signs upon Dr. Petrie's potsherds from the Fayum, and her paper read by Dr. Cust at the Congress of Orientalists in Stockholm [1889], attracted wide attention and led to the conclusion that the Græco-Phœnician alphabet was in use in Egypt before the period of the Exodus. Her hieroglyphic-ship was beautiful and clear and artistic.

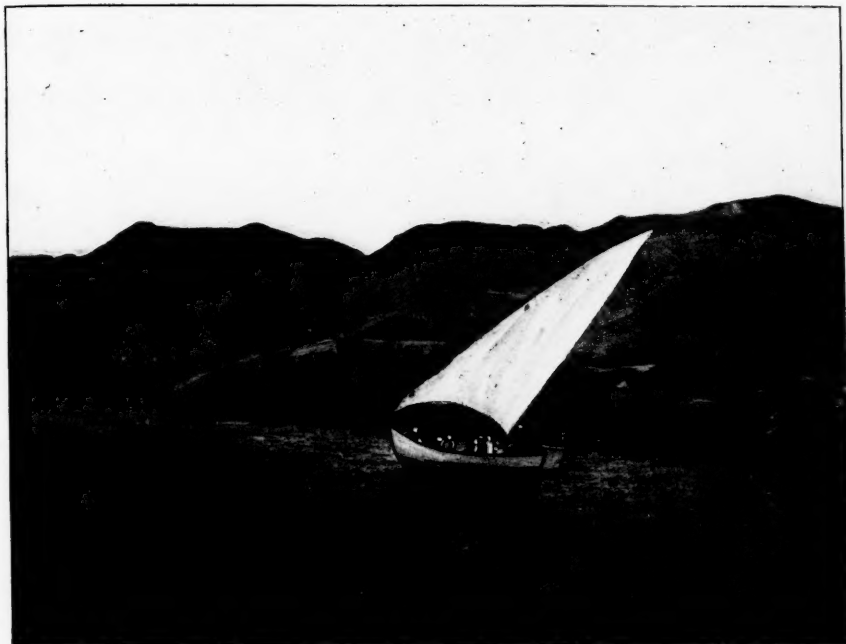
Among many treasures are 3 brochures in MS. upon the antiquities sent to America, in which even the off-hand hieroglyphic emblems are exquisitely formed; and her sketch in ink of the original of Langtrety Grange, on the fly-leaf in the first volume of *Lord Brackenbury*, is as artistic a souvenir as an author could present with his book to a friend. Said the *Academy*: "She must have contributed to our columns more than 100 articles, many of considerable length and all requiring some research. We know not whether to admire in them most the brilliancy of their narrative style, or the accuracy with which each detail was verified." Here let me cite from one of her fugitive poems named *Deserted*, and I do not know whether it is in her *Ballads* that appeared in 1865:

As the river flowed then, the river flows still,
 In ripple and foam and spray,
 On by the church and round by the hill,
 And under the sluice of the old burnt mill,
 And out to the fading day.
 But I love it no more; for delight grows cold
 When the song is sung and the tale is told,
 And the heart is given away!

This is the woman who, as an incipient Egyptologist, in 1874, wriggled in "through an aperture about a foot and a half square" in her discoveries at Abou Simbel, as graphically told by her in *A Thousand Miles Up the Nile*—that classic with her own illustrations, whose pocket edition is to-day almost indispensable to the thoughtful tourist in Egypt.

But I must hasten towards a climax fitting to RECORDS OF THE PAST. Born on June 7, 1831, Miss Edwards died on Good Friday, 1892. At the age of 7 she furnished a poem, *The Knights of Old*, for a weekly journal; at 9 she won the prize for a temperance story; at 14 she sent George Cruikshanks, for *The Omnibus*, a tale, with such deft caricature pencillings, that he was inspired thereby to call on her; at 20 she rang out her musical notes with such flexibility and compass that the opera seemed to be her distinct profession; at 24 she published her first novel, *My Brother's Wife*, and, at 33 *Barbara's History*, still devotedly re-read by her admirers. At the age of 35 Miss Edwards was a reviewer on the staff of the *Morning Post*, *Saturday Review*, *Graphic*, *Illustrated News* and other journals. Among her novels, not mentioned above, are: *Half-a-Million of Money*; *Miss Carew*; *In the Days of My Youth*; *Monsieur Maurice*; *Hand and Glove*, and *Dehenham's Vow*. *Lord Brackenbury*, that combinative novel of travel, scenery, incident, society and plot, appeared in *The Graphic*, and was translated into French, German, Italian and Russian. Her spirited book, *Untrodden Peaks and Unfrequented Valleys*, upon the Dolomite Mountains, illustrated by herself, is most entertaining. The Irish wit and humor of Miss Edwards' mother, who was from the famous Walpole family, and the energy and character of her father, a distinguished officer of the Peninsular war, was finely united in their remarkable daughter. Her conversation abounded in humor, clever bits of description, and a warm sympathy, which irresistibly entertained and moved the listener. Even her most staid lectures could not exclude a delicate and delightful humor.

In 1883, Miss Edwards, with Sir Erasmus Wilson and Prof. R. Stuart Poole, founded the Egypt Exploration Fund. "As a child," she tells us, "Wilkinson's *Manners and Customs of the Ancient Egyptians* shared my affections with the *Arabian Nights*. I knew every one of the 600 illustrations by heart." By nature and by grace she was an Egyptologist. In 1882 appeared in *Harper's Magazine* her brilliant paper on the finding of the royal mummies at Thebes, entitled, *Lying in State at Cairo*. She assisted substantially Sir E. Wilson in his invaluable book, *The Egypt of the Past*. One of her pamphlets is, in substance, her paper read at the Congress of Orientalists in Leyden, in 1884 upon *A Fragment of a Mummy Case*. In 1886, her brochure on the *Dispersion of Egyptian Antiquities* attracted much attention. *The Story of Tanis* (Zoan) in *Harper's Magazine*, October, 1886, is without a peer as an archæological paper in a popular magazine. *Bubastis: an Historical Study*, in the January *Century Magazine*, 1890, has a similar touch in



CLIFFS ON THE NILE AT SILSILIS, RICH IN TOMBS AND VOTIVE SHRINES DATING FROM THE VI TO XXII DYNASTIES

study. Her constant writing for *The Times* and her colloquial style in her lectures, led to this simple style, which is characteristic in her *Pharaohs, Fellahs and Explorers*, her splendid volume, containing the substance of her best lectures in the United States. Miss Edwards' translation (with notes) of Maspero's *Egyptian Archaeology*, her volume of lectures, her *Thousand Miles Up the Nile*, her revised Wilson's *Egypt*, together with her brochures, magazine articles, her scores of review and descriptive papers, reveal to us her capacity as an Egyptologist. Her mental structure was exceedingly broad, but her abilities to convey her knowledge intelligently, captivatingly, to others, was phenomenal—and, in the realm of archaeology, peerless.

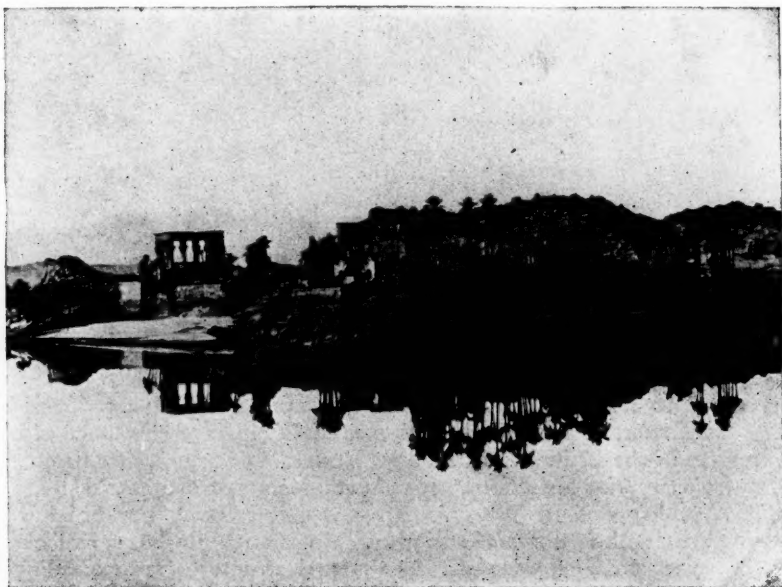
No single achievement of my life is more gratifying to me than the successful effort to induce Miss Edwards to come to America. I secured some 200 signatures endorsing the proposed visit, including those of Whittier, Holmes, Lowell, Curtis, Parkman, and of the editors of the Magazines, about all the leading university and college presidents, etc., etc. What I predicted, having in mind her lectures in Great Britain, was abundantly confirmed by her tour of 120 lectures in the United States:

The picturesqueness of her style, the interest of her facts, and the sympathetic charm of her delivery have evoked unwonted enthusiasm. Her voice is peculiarly clear, agreeable and far-reaching, and she possesses, in a remarkable degree, the power of holding her audiences. Herself a practical archaeologist, she relates the wonders of our inheritance in ancient Egypt and the stirring story of Egyptian exploration, with an intelligent vividness which makes those far-away subjects as

interesting as a sensational romance. Herself a skilled artist, she can, in an instant, deftly illustrate with chalk some hieroglyphic puzzle or curious relationship between Egyptian and Greek art.

It is perhaps no improper secret to tell, that Miss Edwards netted \$10,000 from her tour, whose opening lecture in the Brooklyn [N. Y.] Academy of Music on November 7, 1889, was preceded by an address of welcome from the Rev. Dr. Richard S. Storrs. She made a noble use of her little property in establishing, by her will, the "Edwards Chair of Egyptology" at University College, London, now so brilliantly occupied by Dr. Petrie.

It was owing to Miss Edwards' inspiration that, in 1883-4, I began my work for the Egypt Exploration Fund and established its American branch, which soon rivalled the parent tree. I know, if any one does, her immense



THE ISLAND OF PHILAE, EGYPT

labors for our society, and she knew that I gave my best strength to the work. She was a constant inspiration to my literary and financial efforts to advance our cause. At its centennial, in 1887, Columbia bestowed L.H.D. upon Miss Edwards, and the first honorary degree conferred by Smith was LL.D. for her. But was she not a born *Academician* and Egyptologist? I asked Miss Edwards just on the eve of her return, what had impressed her most, and one of her answers was, "Your opportunities for education—especially for women." May our colleges give us Amelia B. Edwards-like, scholarly, imaginative souls to take up the burden of her song in the promotion of exploration.

MY LAST SKETCH FINISHED, I wander slowly round from spot to spot, saying farewell to Pharaoh's Bed, to the Painted Columns, to every terrace, and palm, and shrine, and familiar point of view. I peep once again into the mystic chamber

of Osiris. I see the sun set for the last time from the roof of the Temple of Isis. Then, when all that wondrous flush of rose and gold has died away, comes the warm afterglow. No words can paint the melancholy beauty of Philæ at this hour. The surrounding mountains stand out jagged and purple against a pale amber sky. The Nile is glassy. Not a breath, not a bubble, troubles the inverted landscape. Every palm is twofold; every stone is doubled. The big boulders in mid-stream are reflected so perfectly that it is impossible to tell where the rock ends and the water begins. The temples, meanwhile, have turned to a subdued golden bronze, and the pylons are peopled with shapes that glow with fantastic life and look ready to step down from their places.

The solitude is perfect, and there is a magical stillness in the air. I hear a mother crooning to her baby on the neighboring island—a sparrow twittering in its little nest in the capital of a column below my feet—a vulture screaming plaintively among the rocks in the far distance. I look; I listen; I promise myself that I will remember it all in years to come—all the solemn hills, these silent colonnades, these deep, quiet spaces of shadow, these sleeping palms. Lingered till it is all but dark, I at last bid them farewell, fearing lest I behold them no more.—*From A Thousand Miles Up the Nile*, by Miss Amelia B. Edwards, LL.D.



"I HEAR A MOTHER CROONING TO
HER BABY ON A NEIGHBORING ISLAND"

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J. DE MORGAN'S WORK IN PERSIA

BY J. DE MORGAN

THAT the public has but a small conception of the magnitude of the work of exploration in the center of ancient civilization, is evident from the question, repeatedly asked, will there be enough new material to fill a monthly Magazine? and M. de Morgan's statement that it may require 20 years to complete the excavations at Susa. One can almost count upon his fingers the ruins of cities where work has been undertaken, and the mounds are almost innumerable still awaiting the spade of the excavator to make their contributions to the history of the past.

It was in 1897 that M. de Morgan resigned his position as Director General of the Antiquities of Egypt, to go to Persia at the request of the French Government, which had secured from the Shah the exclusive right to excavate in the ruins of the ancient cities of his country. As will be seen from the sketch of M. de Morgan's life and work which appeared in the May number, 1902, of *RECORDS OF THE PAST*, he was not a stranger to Persia.

While still at work in Egypt he held to the theory that the civilization of the Pharaohs of Egypt was of Asiatic origin. The results of his first season's work* confirm him in this belief.

The following abstract from his report, given in his own words, will interest the public in M. de Morgan's work at Susa. In a subsequent number of RECORDS OF THE PAST, the results of later excavations made by M. de Morgan in Persia will be presented. [EDITOR.]

FROM TEHERAN TO SUSA

The trip from Teheran to Susa, was accomplished very rapidly and under the most adverse conditions for explorations and archæological observations. Compelled as I was, by circumstances to abandon the usual road from Korremabad, I had to cross the Pouch-e-Kouh mountains and travel unfortunately through a country yet unexplored, where ruins of all epochs are very abundant. From Teheran, which I left on November 3, 1897, to Derre-i-Chahr, on the Sein-Merre, which I reached on the 29th of the same month, I went through known countries, or at least regions which I had crossed in 1892, the description of which I have already published. From Derre-i-Chahr, I marched to the southwest, crossing the great wall of the Kebir-Kouh mountains, then descending in the valleys, connected by their natural declivities either with Mesopotamia or Sisia. I had visited these valleys in 1892; at that time the Vali of Pouch-e-Kouh was at war with the Beni-Lams Arabs. Between the Kebir-Kouh and the Dinar-Kouh mountainous range, located on the southwest of the main range, we met with some unimportant ruins of the Sassanian period. It is beyond the south of the Dinar-Kouh, that are located the valleys which were more settled in ancient times.

At a locality called Kelatch are standing the ruins of a Sassanian city, which was quite important. The citadel stood on an abrupt rock overlooking the plain by at least 40 metres. At the foot of this rock were scattered the remains of buildings similar to those of Derre-i-Chahr, that is to say made of pebbles cemented with plaster. In this locality is running a small stream of sulfurous and saline water. It would be difficult to conceive how such a small rill could have supplied such a populous city, if the remains of numerous works of canalization did not give evidence that sweet water was brought here from far away in the mountains.

Kelatch is located some 150 kilometres from the Kerkha, to the north of this river, the nearest point being between Paie-Poul and Eican-i-Kerkha. Between Kelatch and Susiana, a broad valley is spreading, barren to-day, but formerly flourishing. Here are often to be seen remains of ancient canals, which used to bring to the cities and to the country water from the rivers flowing towards Mesopotamia. They form to-day the river Tib, a left-side effluent of the Euphrates. This valley appears with an average width of about 20 kilometres, and is formed by two ranges of mountains, on one side the Dinar-Kouh, on the other the ranges which running near Bayat, extends to the southeast as far as Ram-Hormuz, where it joins the Karoun, the threshold of Ahwaz. The natural stratigraphic formation of the soil, would have naturally brought the drainage of this watershed toward the Kerkha, if on the right side of this river, hills had not been formed,

**Compte Rendue Sommaire des Travaux Archæologiques Exécutés Du 3 Novembre, 1897, Au 1er Juin, 1898, Delegation en Perse.* Par J. de Morgan, Paris: Ernest Leroux, Editeur, 1898.

unimportant in height, but yet sufficient to prevent the flowing of water, which, unable to break the southeastern obstruction, cut through the Bayat gate and now runs towards Mesopotamia. We have seen that the Persians of the Sassanian period inhabited this district, but the remains of their presence are far less abundant than those of greater antiquity. In the Mesopotamian plain, in the Turkish territory, there is a huge mound, Sebat-Kherib, in Arab. Tchegar-riz, in Persian *C'est la*. On this spot, supported by the general study of the country, and the Assyrian war annals, I have on my map of Elam, located the site of the city of Gamboulou, the name which possibly may have belonged to the whole district of which I have already spoken.

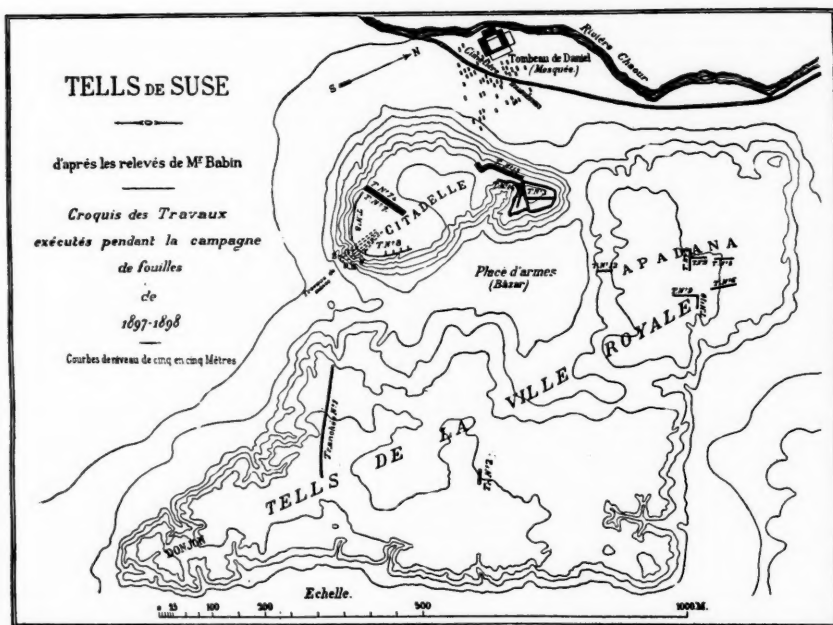
At Bayat stands also a large mound, the remains of the fortified city that guarded the pass. Then in the valley itself we met with Tepeh-Chakalespi (the mound of the white jackal), Tepeh-Miziaw, Tepeh-Rameh-horde (the mound of the stolen herd). Tepeh-Patak, and a number of more or less important mounds, being evidence of the great wealth of this country in ancient times, which is now a desert. Of all the mounds of which I have spoken, the most important after those of Bayat, Tchegar-riz is the one called Tepeh-Miziaw. It is composed of two distinct parts, the larger one or northern is surrounded by a rectangular wall. Every thing in these ruins conveys the idea of a large city, even of a royal city surrounded by its suburbs and overlooked by its Acropolis. A long canal coming from the mountains, and at present well preserved, used to bring sweet water to the various parts of the city. Although I was not able to do anything more than ascertain the presence of these mounds, rushed as I was by the insecurity of the country I was crossing, I have no doubt that they must be ascribed to a very remote antiquity. Near one of them (Tepeh-Patak) I found a fragment of a limestone club, similar to those discovered at Susa, moreover the debris of bases and the general aspect of the ruins does not permit of any other conclusion.

The natives call this plain Decht-e-Akhbar. These territories are successively occupied during winter by the Beni-Lams Arabs, the Sehgvends, or by the Poucht-e-Kouh tribes, but there does not exist any kind of village or dwelling.

The Decht-e-Akhbar, most certainly played a very important part in prehistoric times; it was in the close vicinity of Susa, on the most direct and best road from this capital to Babylon. Between these two cities, via Bayat, the caravans could make the journey in 10 days, so it is easy to understand the care that the Anzan Kings took to fortify it. Excavations there, would surely be of the highest interest, but how could they be undertaken to-day, in a country where unceasingly circulate the scum of the Louritan and Chaldea's people? Those very brigands themselves would have to be employed as workmen! After having crossed rapidly this curious region, I arrived at Dizfoul on December 7th and at Susa on the 16th of the same month, and on December 18, 1897, the work was begun with the opening of a mining gallery.

EXCAVATIONS AT SUSa

M. de Morgan's staff during the first season's work at Susa consisted of Messrs. G. Jequer, M. G. Lampre and M. J. E. Gautier. Father Schiel, the eminent assyriologist, was detained in Europe. Each of his assistants were put in charge of a different department of the work. They had all



worked with him in Egypt. Mr. Lampre was made secretary of the expedition. His long residence in Persia specially fitted him to discharge the duties of his post.

M. de Morgan says that during this first season's work he was constantly annoyed with all sorts of difficulties arising from the uncivilized condition of the country and fanaticism of the natives. They had to get used to the European methods of labor, while the local government, in spite of the Shah's Firmans, did not realize at once their meaning.

As soon as I arrived at Susa, says M. de Morgan, my first care was to carry through the mound of "the citadel" mining galleries, in order to study the various levels before starting any open cuts. I selected as center for my preliminary investigations, one of the highest points of the tumulus, the southern extremity, the altitude of which above the surrounding plain, is about 35 metres [over 110 feet]. Guiding myself by the inspection of the debris met with on the ground, I opened 5 galleries, at the east of the mound's extremity, so the rubbish could be thrown into the ditch which, during the Achemenid period, separated the citadel from the royal city.

In 1891, I noticed that the slopes of this part of the tumulus contained more cut flints and a greater number of painted vases and fragments than any other part of the ruins. So I was positive, that while working through those thick beds, I would find the remains of the oldest civilizations. The opening of a gallery at the very level of the plain necessitating extensive clearings, I postponed it for the time being, and designate this gallery letter

A, which will correspond to the o of the ruins' altitude, for at this point the plain is lower than anywhere else. The 5 galleries opened this winter correspond to the letters B, C, D, E, F [see plan of ruins].

The gallery B was opened at an altitude of 10m. 93 above the plain, and 24m. 90 below the mound's summit, and was carried to a distance of 45½ metres. It went through fine yellowish dust, very compact, containing numerous fragments of pottery decorated with black painting, and sometimes red or brown. This ceramic is very remarkable by the fineness of its paste, by the skill with which it is executed, and also by the originality of its ornamentation. It is far superior to those found in the higher levels of the mound. The vase ornamentations are sometimes very complicated and composed of geometric lines, though often these are to be found on the fragments of cylindrical or conical vases, pictures of birds, representing, if I am not mistaken, echassiers, and similar in make to the images or same kind decorating Egypt's prehistoric vases. The ornaments of the finest paste, are enamelled in black like the Greek vases; the red and brown designs being most frequently on the rough paste and will disappear when persistently washed with a brush. Besides those fragments of vases, gallery B has supplied few cut flint debris.

Gallery C was opened at a level of 14m. 30 above the plain, 20m. 70 below the mound's top and was carried to a distance of 38m. 90 in a soil similar to the lower bed, but containing here and there heaps of ashes and charcoal. From this level the ceramic's nature changes, there are also fine potteries, but in small quantity, and coarse clay vases, with or without ornament, predominate in the clearings. Cut flints are more abundant than in the inferior beds. There are flakes, few nuclei, and among those objects are pieces of sickles similar to those set by the primitive Egyptians in their wooden implements. I have found at various levels, and also at the surface of the mound, quite a great number of pieces from sickles, some having retained the bitumen used in fastening them to the wood, nearly all showing on the edge a polish that has been given by use. The same fact is always observed in Egypt. I have made previously the remark in my *Recherches sur les origines de l'Egypt*, that the culture of wheat could never have originated in the Nile valley, cereals not existing in an aboriginal state in Egypt. I have relied on this fact, among others in my attempt to prove the Asiatic origin of the first Egyptians, or at least of their civilization. This argument would have had a far greater value, had I known, as I have to-day observed, that the same tool provided with flint flakes, was used in Mesopotamia as well as in Egypt, for harvesting grains, which here are growing naturally all over the country and even on Susa's mounds.

Gallery D was opened at a level of 18m. 20 above the plain, 16m. 80 below the top of the mound, and was carried 55 metres. This work was cut through a thick bed composed of ashes, charcoal, numerous fragments of vases, cut flints and of more or less charred bones. Very coarse vases and very few new fragments are found bearing rudimentary paintings, many are simply hand-made without the help of a wheel, others are wheel-made and roughly adorned with one or several wavy lines made with a pointed reed. Gallery D level is above all that of nuclei and cut flint. Flakes and nuclei are found there in immense heaps, and by thousands. It seems as if the workmen had dumped there in this part of the mound all the refuse of their workshops. Among the flakes I found none, if I except a few

pieces from sickles, that had been recut. I must also mention as coming from these strata, some clubs made of a circular and flat pebble perforated in the center. I have mentioned weapons of this type in the prehistoric station of Tepeh-Goulan, in the Poucht-e-Kouh. I have also found some near Tepeh-Patak, in the plain, on the right side of the Kerkha river, some 150 kilometres inland. At Susa, as at other prehistoric stations they accompany the nuclei. Extensive moving of ground having taken place in the mound at Susa, during the Anzanite (Elamite) as well as during the Achemenide period, flint implements as well as painted vases, are often found in those disturbed beds, but the natural strata for these objects are only the lower beds of the mound.

Gallery E was opened 21 metres above the plain's level, 12m. 59 below the mound's summit, and went 40 metres inside, at this level a new change takes place. In connection with clubs, flint flakes, nuclei and coarse vases, are also found fragments of baked bricks. But it is more especially at the level of gallery F that these changes are more complete. Here we are in the midst of the debris of a far advanced civilization, in possession of metals and of the main rules of construction.

Gallery F was opened 25m. 07 above the plain's level and 8m. 90 below the mound's summit, and was carried inside a distance of 45 metres. It met with a well, lined with large terra cotta tubes, cemented with plaster, and at last a baked brick wall.

No characteristic object, no inscribed brick having been exhumed, I could not, from the sole information supplied by this work, determine the approximate date of this wall. I felt, however, like attributing it to the Anzanite period, when discoveries made in trench No. 7 at a depth of 4 metres, proved that I was not mistaken.

To conclude with these underground works, I must also mention shaft A, intended to cross-cut the galleries and supply the workmen with necessary ventilation. This shaft was sunk only to the depth of 9m. 50 below the mound's surface; the top of the Anzanite level having been discovered in trench No. 7, mining work became unnecessary. The small amount of material extracted from the galleries, the contiguity of the surface explored through this process, do not permit of determining with absolute certainty the nature of the various beds forming the mound of the Susa citadel, but these excavations have supplied us with valuable information that will guide us. We know now that at a depth of from 4m. 50 is the level of the first Anzanite city, of the one that was destroyed by Assurbanipal's soldiers. We know also that the levels of the various epochs are coming in regular sequence down to the beds containing the remains of the prehistoric period. Then it will be sufficient to successively remove the various beds to be able to draw the plans, and to separate the documents of the various epochs.

Assurbanipal tells us that before his coming to Susiana, Susa had never been captured by foreigners, so we must expect to find in perfect order the remains of the various Anzanite civilizations. For we know from the information furnished by the galleries, that at all times, the site of Susa was inhabited.

This Græco-Persian necropolis covered all the central and southern part of the mound known as "the royal city," its systematic exploration will certainly supply interesting documents of the time when discarded Susa was nearing its complete disappearance. I will not enter here into the details

of the political causes of Susa's complete downfall. But there is an important natural fact that has not been mentioned, and which, I believe was the main cause of the abandonment of this spot, which had played, for thousands of years, such a predominant part in the history and political economy of the "Persian Mesopotamia." The river Kerkha (the Choaspes, the Ulai) was formerly flowing at the foot of the Susa citadel, it has receded now some two kilometres towards the west and its water, drinkable in all seasons, has been replaced by that of the Chaour, and other streams which are unhealthy, feverish and impregnated with salts and decomposed organic matter, which are only fit to drink during the few winter months, December—March, then rain lessens the bad effects of the poisonous substances by diluting their solution.

The Chaour and the other brooks which rise out of the old gravel alluviums from the Kerkha have their bottoms covered with a black slime with a fetid smell from which are constantly bubbling hydrocarbids and sulphur gases. The swamp gas is formed by the decomposition of organic matter yet remaining in the slime brought formerly by the Kerkha. The sulphurous gases and the salts come from the thick gypsum beds which form the bottom ground in the greater part of upper Anzan. These beds which can be followed from Kherkouk in Turkey, as far as Dinar-Kouh (part of the Pouch-e-Kouh), sink under the Susiana's alluvium to reappear near Ram-Hormuz, on the southwest of the plain. They give birth, on all the Mesopotamian slope of the Pouch-e-Kouh to saline and sulphurous hot springs. The same waters, springing out of the deep beds, mix themselves with the infiltrations from the Kerkha and supply the Chaour and the neighboring rills.

The Kerkha is not free from the same morbid principles, but such a large mass of water flows that their effects are not to be dreaded, although this river at low water during summer deposits on its shore various salts, sulphates of soda, potash, magnesia, etc.

At what time did this change take place in the water supply of the Kerkha? The ruins which are the best witnesses of this transformation, provide us with an approximate date.

Between the present mounds of Susa and the Kerkha's western shore, we often fall in with ruins; walls made of baked bricks (of small dimensions) cemented with plaster, and belonging to the period which I call Græco-Persian. So we are positive that a great many of the late epoch's ruins have been either buried under the mud from the Kerkha, or torn from the ground by its current.

On the right side of the big river, can be seen a great many mounds, covering altogether a length of several kilometres. These mounds which contain ruins of the same nature as those of Susa, are but the city's extension toward the west. In ancient times, Susa, then immense, was extended on both banks of the river, and most probably water was brought into the various parts of the city by canals.

The nature of the walls which are to be seen in the lower valley alluviums, show that the change in the Kerkha's course took place at the beginning of the Græco-Persian period, the pipes and drains which attend the late period's buildings, prove that it became necessary then to gather rain water for the wants of the inhabitants. Susa's decline, and may be

its complete desertion, is proven by the Sassanian sovereign's establishing a large fortified camp, at a spot now called Eivan-i-Kerkha on the right bank of the river.

If Susa's site had been still inhabitable at that time, never would the Sassanians have abandoned, a strategical position rendered so strong by the height of the mounds. If they resigned themselves to this relinquishment. It was because drinkable water had deserted the kings of Anzan's ancient capital, and that the Kerkha had transferred itself to where it runs to-day.

I was compelled to go into these details, when speaking of trench No. 1, because without these explanations, it would have been difficult to understand the direction which I gave to my excavations. A careful inspection of the surface has led me to consider the mounds called "the citadel" and "the royal city" as the main Achemenid centres and the mound of "the citadel" and the southern part of "the royal city" as being the site of the most important Anzanite buildings. So I have concentrated my labors in the ruins on those two points, in order not to scatter my resources in an attempt to reconstruct at once the topography of a city, which, as I have just explained, covered both sides of the river, a surface of at least 1,500 hectares [some 3,000 acres].

In Trench No. 3 were found a great many alabaster vase fragments. Alabaster was known to the Anzanites and the Persians used it extensively. One of the broken vases has been nearly reconstructed, another one unfortunately broken, bears a triangular inscription with the name of Xerxes. This text, as far as I know, is the first one of this king, ever found in the ruins of Susa.

Below the Achemenid flooring, and its bitten clay support, is a kind of conglomerate made of bricks, entire or broken, mixed up with vase fragments. This bed is remarkable for the total absence of enameled pottery, such as we found in the upper beds.

The bricks, above mentioned, are made of brown clay mixed with straw, generally darker inside than out, and they vary in dimensions. These materials belong to the Anzanite period, as is proved by the texts engraved on them with a pointed tool, on which appear the names of Sutruk-Nakhunta, Kudur-Nakhunta, Silhak and other yet unknown kings. The Rev. Father Scheil will make this the subject of a special study.

INSCRIBED BRICKS

The inscriptions discovered up to the present time in the Susa's mounds are of three different kinds:

1. Inscriptions traced on the flat part inside of a square in the centre of the brick. These texts were intended to be sunk into the masonry and to be seen only after the pulling down of the building. This custom was intended to keep for posterity, the king's name and is very common in Chaldæ, but seems to be very rare in Susa. During all this campaign of excavations but 5 or 6 specimens of it were found.

2. Inscriptions traced parallel to the brick horizontal edges. In this way quarter bricks, half bricks, three quarters and whole bricks were also found with an entering in the return angle. The texts appear on any of the edges and often on two consecutive ones.

3. Inscriptions traced in columns, perpendicular to the horizontal borders of the brick. The remarks in the preceding ones will apply to this class of bricks.

The texts of the two last types were intended to be placed in the wall facings, either outside of the buildings, or more probably, inside of the rooms, hallways and gates. They could be read by everybody. Each brick bears a complete text, and was not necessarily part of a longer inscription. Sometimes the lines of the text are carried on two consecutive edges (angles) but more generally when a brick is inscribed on two edges, the two texts are independent. I have not yet, unfortunately, found any of these bricks *in situ* in the walls, but I am tempted to believe that inscriptions in the Anzanite palaces were running in long stripes, along the rooms, crossing the doors, for they occupied not only the edge, but also two consecutive edges and in the return angle, the two edges in the three-quartered bricks. It must be noticed that none of those texts are stamped in as is the case in Mesopotamia. They are all traced with a graver. Some are very carefully drawn. This accounts for the numerous variations in similar texts from the same king.

Besides the brown clay bricks used in the Anzanite buildings, in trench No. 3 were also found a few specimens of very curiously enameled bricks, the use of which is not yet known. These bricks, the composition of which is similar to the Achaemenid enameled material, are made of pulverized conglomerated sandstone. They vary much in shape. Some are square and flat, others nearly cubic, others are very irregular and seem to have been part of *bas reliefs*, the figures of which were covered with inscriptions. At any rate, writing covers nearly all the sides, so we may wonder on what side could such material rest in the masonry, and if they were not sunk inside of the walls, being used as corner or foundation stones. I had to discard this last supposition, for in this case all the faces would have been inscribed and it is not so. I am more inclined to believe that these materials were used in furniture or small monuments decorating the inside of temples and palaces. Further excavations will very likely throw light on this point.

Artaxerxes Mnemon's Apadana crowning one of the most important mounds of the "Royal City" is Susa's largest Achaemenid monument. Although having a great similitude with the already well known Pessepoli buildings, as it differs from them in some points, it is important to carefully observe the smallest architectural details. This is the first consideration that induced me to undertake important excavations on this spot, viz.:

1. To find the enameled brick decorations which must have adorned the walls outside and inside of the building.

2. To find traces of the first Achaemenid building erected on the mound, viz.: Darius Apadana, torn down by Artaxerxes Mnemon, in order to be rebuilt on a larger scale.

3. At about 100 metres from the Apadana, in the ditch where was found the archers' frieze, now in the Louvre, there are to be seen in the Achaemenid, sun dried brick walls and many older materials, which can unquestionably be attributed to the Anzanite period. So the thing to know was whether under the foundations of the large Persian building, and not in its vicinity only, were remains of a building dating way back to the Elamite epoch. This last point could not be ascertained as it will be seen further

on, on account of the material difficulties which prevented going down below the Achemenid foundations. Nevertheless I am ready to believe that there was no important Anzanite building on this site. The baked bricks are not only covered with inscriptions, but I have found several specimens with reliefs from portions of pictures representing human figures or ornaments. Then the walls of the rooms were not only decorated with borders of inscriptions, but also with real *bas-reliefs*, in which bricks took the place of stone in the Nineveh palaces.

We found quite a large number of enameled sandstone bricks and large knobs of the same material, which seemed to have decorated some smaller structures inside of the building. Both knobs and bricks are covered with inscriptions, the reading of which is made very trying on account of the glaze covering the signs. Then, the custom of decorating buildings with pictures made with glazed or unglazed bricks, is at Susa much anterior to the Persians. We know that this process was applied in Babylon and Nineveh at a very early time, but it is curious to find it also at Susa under the kings of Anzan.

At the time of Susa's destruction it was ransacked and so systematically torn down that none of the objects that it contained could be found *in situ*. Assurbanipal tells us of his soldiers' eagerness in the destruction of the palaces of the kings of Anzan, "That they upset the winged bulls guarding the gates." Excavations show us that they also upset the steles, the obelisks, and all the written traces of their enemies' past grandeur. In the report of Assurbanipal I see the reason why the walls were torn down nearly to their base. On their bricks were inscribed the names of the kings and they were destroyed because the Assyrian conqueror did not want even the memory of the kings of Anzan to outlive their kingdoms.

I will now enumerate the various monuments found in the palace. None of them were found *in situ*, all of them in spite of their weight had been dragged outside of the building.

1. *Bronze Table*.—This very interesting piece is 1m. 60 in length, om. 70 wide, with an average thickness of om. 30. It was found at the bottom of trench No. 7 outside, but at the same level as the pavement. It is made of an irregular slab perforated with 4 holes on the sides, and bordered with two enormous snakes. Five human figures, the upper part of the bodies only being still preserved, supported this table on the two sides, and at one end, while the other one was set in the wall. The modeling of the human figures is remarkable; the arms slightly distant from the bodies are folded over the abdomen. The hands were firmly grasping a now broken off object. The heads and the lower parts of the body are wanting, and so are the heads of the snakes. All projecting parts were broken. In some places can be seen traces of the hammering. Then, the soldiers of Assurbanipal dragged outside of the palace, this mass of bronze, hoping that they could carry it away, but they were compelled by its immense weight, to abandon it in the ruins.

2. *Granite Obelisk*.—Discovered in the rubbish at the starting point of Trench 7, this obelisk is 1m. 40 in height. The 4 faces are equal 2 and 2, the largest one being om. 60 at the base, and the smallest om. 50.

The 4 faces are covered with a text deeply cut into the granite, they show 75 horizontal lines divided into more than 1,500 small columns, in all

nearly 10,000 signs. This very archaic text is unquestionably the longest ever found in Mesopotamia and in the neighboring countries; it is almost complete, for the break at the obelisk's top destroys but a very small part of the inscription.

3. *The Large Stele.*—

This monument is the largest exhumed at Susa during the last campaign of excavations. It is 2 metres high, the greatest width being 1m. 05. At the top are 3 singular representations of the Sun with its rays. Below is the helmeted King, armed with an arrow in the right hand and a bow in the left. He wears a semi-long costume and sandals, a dagger is passed through his belt. His beard is long according to the Chaldaean and Assyrian fashion. This figure treads under his feet dead enemies, while in front of him another one falls wounded and attempts to pull out the arrow which pierces him; further still another one raises his hands in supplication; Under the King's feet are heaped up dead bodies, some of them remarkably treated, their attitude is correct and very elaborate. Below the King, and ascending a grade are 3 sign bearers, the left hand resting on the dagger fastened in their belts, the right holding the banner. These figures wear long dresses and helmets. Below



STELE OF NARAM-SIN? ABOUT 3800 B.C. SUSA

the sign bearers, soldiers are coming next with various armaments. Facing the sign bearers and soldiers are represented two trees, and between them are enemies turning in a submissive attitude. The whole scene takes place in the mountains, the King followed by his standard bearers and soldiers, is pursuing his enemies as far as an abrupt peak entirely covered by a long inscription. Other enemies are playing in the forests or making their submission. Unfortunately this stele had to stand the effects of a big conflagration, the stone has been split in many places, and one of its scalings has

carried away the whole text that stood above the King's head. I had to fill in the base with plaster, in order to be able to take a substantial squeeze of this monument to preserve so valuable a document, for I fear that it will not stand transportation.

In spite of these injuries, the stele is a very important monument of the Elamite art. The composition is well put together and the execution entirely satisfactory, the figures are of good proportion, well treated in the ensemble and in the details, showing that the Anzanites had reached an artistic skill in no way inferior to what we know of their neighbors, the Assyrians and the Chaldæans.

4. *The White Pebble*.—I call by the name pebbles large drifted stones, roughly cut, with four faces and bearing inscriptions with pictures, making them in fact real stele, although these blocks have none of the usual shapes. The "white pebble" is a very hard yellowish white limestone om. 57 high with a maximum width of om. 32. At the top is a coiled snake, below are two panels, encircling the whole of the pebble. On the top panel, om. 07 high are two suns, the moon, two houses covered with two high conical tops, a scorpion and some other much defaced but similar representations. In the lower panel, om. 10 high are fantastic forms of animals and squares inserted into one another. The lower part of the stone, for a space of om. 40 had been covered with 23 lines of engraved inscriptions. Unfortunately part of this writing has been pounded and rubbed by the sharpening of tools so these texts are far from being complete.

5. *The Black Pebble*.—This stone is entirely intact. It is a black bituminous limestone similar to the one used later on by the Achemenids to adorn their palaces. The dimensions are: height om. 50, maximum length om. 20, at the summit is a coiled snake seen on its flat side, the block is decorated on its 4 sides, viz. 1. At the top a star, the Moon, the Sun, below a figure (likely a king) seated on a rectangular seat. He wears long hair with a plait behind the ear, is beardless, with a cap and a long robe, in the Chaldæan style, hanging to the ankles and fastened at the waist with a belt. The wrists are adorned with bracelets, he is raising his hands as a sign of adoration before a scorpion facing him. At his feet is a lion, the fore part of which only is visible, the rest being hidden by the King's form. Under this figure is an inscription of 5 lines. 2. This side is horizontally divided into 5 panels: In the top one are two small square buildings with conic roofs. In the second one, two small square buildings, the left one has been hammered. In the third panel are 4 standards (?) or religious emblems. In the fourth panel a hawk perching on a roost, or next to this a stretched bull (?) carrying on his back two undulating v-shaped lines reaching the panel above. In the lower panel is an inscription of 5 lines. 3. Two columns of text, the left one counting 37 lines, the right one only 33. 4. Two columns of writing, each of 35 lines.

I do not mention a great many stone fragments bearing inscriptions discovered in trench No. 7 and 7a, as their nomenclature would be tedious. They will be published in a special work by the Rev. Father O. V. Scheil.

Such are the results which have been obtained in Trenches No. 7 and 7a. They are of the highest importance as bearing on the researches to follow. First, they brought out parts of the palaces; then we have been able to observe this fact, very important, for the next coming work, that

below 4 metres we have only to look for the Anzanite remains. The debris of the 25 centuries separating our own from the time of Susa's capture by Assurbanipal, are all contained in these 4 metres of rubbish.

The fort had a garrison, and at the same time was possibly used as a treasure house by the Persian kings. When Alexander captured Susa, he found there 9,000 gold talents. It is possible that these riches may have been heaped up in store rooms erected within the citadel but it is more probable that following the Oriental mode, the treasure was stored in the palace rooms not far from the Apadana.

In any case, the presence in the citadel of a strong garrison with the officers, is enough to explain the discovery of the column base that I have mentioned.

Towards the opening of trench No. 7, the Achemenid wall was cut in various places, to make room for Græco-Persian buildings without much interest. This proves that after the Macedonian conquest, the Achemenid walls crumbled into ruins, and even that the whole of Susa was dismantled. Private dwellings were then erected all over the "royal city" upon the ruins of palaces, and even over the remains of fortifications. After Alexander, Susa the Grand, ruined, fallen from her rank of capital, was already beginning to disappear, and if in her decline she lived a few more centuries, it was due to the continuation of her commercial importance. Palaces had been burnt, walls had crumbled, kings and their courts had vanished, but this did not prevent the inhabitants from still coming to Susa to dispose of their products. The memory of the decline, did remain in the country. The nomads even today, give the name of Cazr (market) to the space occupied by the Achemenid stronghold. The Kerkha by changing its course, the canal by getting filled up, completed the downfall of the city, which had been for more than 3000 years one of the most important in Asia.

In the interior of rooms I found large masses of charcoal and ashes, charred debris of coatings from the upper part of the buildings, few coarse clay vase fragments, human and animal calcine bones, a table covered with Cuneiform inscriptions, inscribed baked bricks, and a few shapeless pieces of bronze.

This aspect of the place proves that the Anzantine Susa was set on fire. We know this from the report left by Assurbanipal, and the description left by the Assyrian texts, supplies the most satisfactory explanation.

"During one month and one day," says King Assurbanipal, "I swept the land clean entirely of the male voices, of the wandering oxen and sheep, of the resoundings of jolly music, I deprived these countries, and I cast in the wild animals, the snakes, the beasts from the desert and the gazelles." The ruin was complete, and of this we find evidence at each stroke of the pick-axe.

The kings of Anzan used to be great builders. This we know by a few of their inscriptions that have been already translated. They held monuments in high esteem, and as soon as they were going to ruin they used to pull them down in order to rebuild others on a new plan. This explains why we find in the ruins so much material used anew and having been part of older buildings. We have recorded with the greatest care on the plans and sections, the spot of each inscribed brick. In this way we will separate

the materials belonging to the buildings themselves, from those that have been used anew. In this way, we will obtain the date of the places and temples, and also the history of those who preceded them on a spot where they cover their ruins. The remains of the various buildings, being in this way superimposed, it is impossible to reach a lower level without removing every part of the upper one. So I have taken the greatest care to note all the details belonging to the level that we are now studying. This plan will supply the architectural records of Susa, and will be of great value in studying the general history of Anzan.

CONCLUSIONS

The study of the surface of Susa's mounds and the excavations during the season 1897-98, have brought forth the following results:

Anzanite Ruins.—1. The main Anzanite sites are: the whole of the mound called "The Citadel" and the southern part of the mound called "The Royal City."

2. Other Anzanite sites are located east of the Apadana, at Tepeh Soleiman (3 kilometres north of Susa) and in other mounds near the large one.

3. In the mound called "The Citadel" the Anzanite upper level (contemporary with Assurbanipal) is at an average depth of $4\frac{1}{2}$ metres.

4. At the time of Susa's destruction by the Assyrians all the monuments that could not be carried away were upset without being damaged.

Achemenid Ruins.—1. The main Achemenid center seems to have been the mound called "The Royal City."

2. The depth of the Achemenid level below the present ground surface varies between 1 [Apadana] and 9 metres [trench No. 2].

3. The Achemenid citadel formed by a single enclosing wall encircling the edge of the mound's top does not seem to have contained any building of great importance.

Græco-Persian Ruins.—After Susa's capture by Alexander the Great, no important buildings seem to have been erected at Susa.

Sassanian Epoch.—The city of Susa seems to have disappeared entirely before the end of the Arsacide epoch or the beginning of the Sassanian Dynasty.

These main conclusions, about which there does not appear to be any possible doubt, must serve as guides in future excavations. Possibly later they will have to be modified, but they will remain substantially true.

Consequently, the Græco-Persian periods must be neglected so far as special researches are concerned, on account of their limited interest at Susa. Achemenid and Anzanite ruins are the only ones remaining to be considered, being the only ones to contain royal buildings, hence pages of history.

While the inspection of the Achemenid ruins would add little to history, of much greater importance would be the study of the Anzanite remains. In fact all that we know of this kingdom is of its decadence and fall; only a few centuries concerning which we have but very few documents, and they relate to the last moments of a powerful kingdom after lasting thousands of years.

What we may expect to find in the Susianian inscriptions are not the doings of a known king, or of a few names of unknown sovereigns that we

will add to historical lists, but whole dynasties whose records have vanished. It is the life of a nation for 3,000 years that we must attempt to reconstruct with the monuments that they have transmitted to us.

For the following reasons, hereafter I intend to concentrate my labors on the Elamite remains, those that have been found this year. The importance of the documents that they contain makes this an imperative duty, and during the next season, the excavations in the mound called "The Citadel," will be my main work.

During the past season I have been able to realize the conditions of labor at Susa. With 10 small railway cars, I have dug, within a month, a ditch 100 metres in length for the transportation of rubbish and 5 metres wide with a depth of 5 metres. The cube has been 2,500 metres and the surface cleared 500 square metres.

I have ordered for the next season a sufficient number of small cars to increase the number to 50 for transporting my material. Then it will be possible each month to remove 12,500 cubic metres of clearings, corresponding to a surface of 2,500 square metres.

Then in a six months campaign of excavation, as I figured 4 months for the clearings and 2 months for the more delicate work it can be seen that with the material at my disposal, it will be easy to clear 10,000 square metres or one hectare of the mound.

The total surface of the mound is less than 5 hectares and it will therefore take between 4 and 5 years (including the past season) to clear the whole of the hill down to the most recent Anzanite level.

I intend next year to open at the same time in the mound of the "Citadel" 5 trenches 100 metres long and 5 metres wide in order to clear the whole of the building discovered this year in Trenches No. 7 and No. 7a.

Following the argument that I have just made, it can be seen that with the material that I will have next year at my disposal, I can clear the mound down to the inferior level within 20 years. But this extensive work should only be attempted after sounding between each level. It is quite possible that the exploration of only one portion of the lower levels will be sufficient; for below the level where the oldest inscriptions occur, the interest becomes much less. In these conditions the whole mound would reveal all its secrets possibly within 10 years. As to the other portions of the ruins and mound in the vicinity of Susa, I cannot in any way foresee the time necessary for their exploration. They will be operated upon during the time of the excavations of the Anzanite Acropolis tested and cleared entirely if they deserve such an extensive labor.

STONE EFFIGIES FROM THE SOUTHWEST

BY PROFESSOR WARREN K. MOOREHEAD, A.M.

THE famous "desert region" proper (southern Arizona and New Mexico), and particularly the southern portion of Arizona, abounds in certain effigies or ceremonials, or unknown objects which have as yet not been fully described by archæologists. There are many of these peculiar specimens which are not found elsewhere in the Southwest. Some of them occur in southern California, or Old Mexico. A few of the more simple forms have been discovered in the cliff-ruins to the north of the Gila, Salado, and Verde regions. Absolutely nothing is known regarding them, and I shall attempt no solution of the purpose of their manufacture.

They are of malpi, tufa or other volcanic and lava stones; seldom of granite. They are found about the ruins, along the old irrigating canals, or on the desert near no ruins. Some of them are readily recognized as being owls, Gila monsters, bears, lizards, turtles, wolves, etc. Others are rude, or manifestly made grotesquely, so that we cannot distinguish them.

The illustrations accompanying this paper show a peculiar class of stone effigies from the Salado Valley in Arizona. While most of them represent animals, several must be placed in the "unknown" category, for they are manifestly not effigies, idols, etc.

There is some discussion regarding these singular types, and I have recently observed one or two criticisms upon them in which the writers (who, by the way, do not append their names) are skeptical regarding the antiquity of a large portion of the Southwest idols, effigies, or whatever they are. That these critics are not familiar with the field is entirely probable. No person experienced in the excavation of the adobe ruins near Phoenix, Solomonville, or the Gila Valley generally, would say that these forms are all modern. The Pima Indians, near Tempe, have made and sold a number of idols and effigies. But such can easily be determined by a careful inspection after the specimens have been washed. If all of them are modern—made to sell—is it possible that the Pimas should have taken the trouble to bury these objects in graves, rooms, floors, etc., of the old ruins? And having done this, would they scatter the sand, debris, ashes and other accumulation common to the ruins over the caches?

If effigies are found under conditions apparently prehistoric, beneath undisturbed layers, how can the critics distinguish the modern from the ancient? And finally, why should they single out the effigies; why not include pottery, turquoise, obsidian, etc.?

I was in the Salado Valley from November, 1897, to June, 1898, and did a great deal of work in the ruins. I also bought objects from the Indians—objects found by them on the surface of the ruins in various directions out from Phoenix. The collection included everything found in the Southwest, from minute beads to large, heavy mortars and metates. These specimens did not differ greatly from those dug up by my men in the ruins themselves. We found numerous effigies, and procured many from the Indians. Some of the Indians brought in specimens that were unquestionably

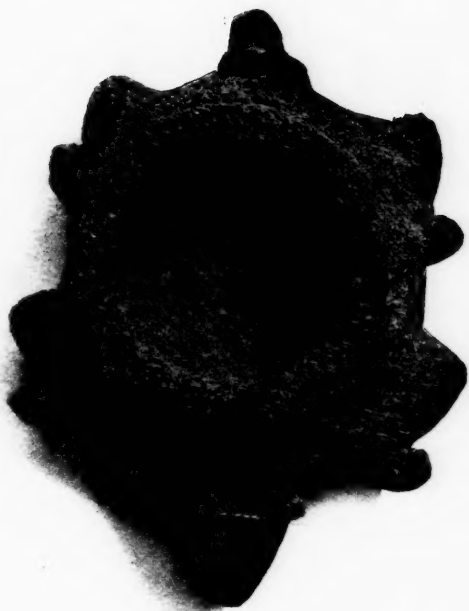


FIGURE 1. SIZE 1-1



FIGURE 5. SIZE 1-2



FIGURE 2. SIZE 1-2

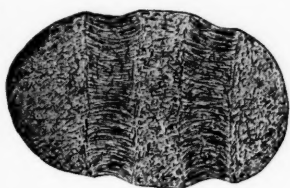


FIGURE 4. SIZE 1-2



FIGURE 6. SIZE 1-2



FIGURE 8. SIZE I-3



FIGURE 10. SIZE I-1



FIGURE 7. SIZE I-2



FIGURE 11. SIZE I-3

imitations of ancient forms. Others were grotesque figures cut out of the ordinary mano stones, small metates, etc. The bogus of these were cast aside, so far as we were able to determine them. But there may have remained a few clever imitations in my collection. That can be determined later. The point I wish to make is that effigies, idols, etc., *are* found in the ruins, and that he who says such are *not* found under strictly prehistoric conditions makes a statement which is untrue, and one that can be positively controverted in the field.

Figure 1 is one of the remarkable "effigy mortars," if I may coin such a term. Being roughly wrought from volcanic material, its outlines are not sufficiently clear for us to determine whether it represents a turtle or some other subject. Many of these "effigy mortars" are found. My party secured several when excavating about Mesa, and also south of the Salado, 4 miles from Phoenix.

Another effigy in lava is shown by Figure 2. It was found near Mesa, but on the surface and not in the ruin. Not a few effigies have been picked up along the old irrigating canals where there are no ruins, and only traces of temporary encampments or small village sites. It may be a bear. The resemblance is not distinct, although the workmanship is superior to Figure 1.

Figure 3 resembles very much the Armadillo. Mr. Tait of Phoenix has several of these in his collection. I secured two; one by find and the other by purchase. It is made of sandstone. The effigy, as in the case of all shown in this article—possibly excepting Figures 7 and 9, is unquestionably prehistoric. There are no marks of recent work and the cuttings appear to be patinated. It was found on the upper Salado.

Figure 4 is a grooved hammer of sandstone, and was found in ruins 3 miles west of Phoenix, covered with ashes, in a room on the ground floor of a pueblo. It has two grooves, a peculiarity not noted in Eastern types, and but few occur even in the Southwest.



FIGURE 3

Figure 5 is another curious object wrought from a mano stone and procured from the Pima Indians. It has the look of antiquity, yet it may be modern. I cannot tell positively.

Figure 6 is an odd-shaped affair, but it was not worked from a mano stone. It is over 2 inches thick, and made of very porous, coarse lava. It has a mortar-like depression in the center nearly 2 inches in diameter. For what purpose was it made? It was found in an old canal 5 miles south of Phoenix.

Figure 7 an owl effigy. The wings are barely indicated. The head is more carefully wrought. There are several owl effigies from the Southwest that evince considerable artistic ability, the wings being in relief. But more of them are similar to Figure 6, the head being abnormally short and the neck ignored. Made of lava and found near Mesa.

Perhaps Figure 8 is a turtle. The turtle, bear, lizard and owl were favorites, for we find more effigies of them than of any others. The legs of all effigies are very short, being barely indicated in many instances. The body is usually better worked than the head. It is made of lava, and found 4 miles east of Mesa, 18 miles from Phoenix.

The Gila monster is sometimes portrayed in the effigies. Usually the likeness is more apparent than Figure 9 indicates. But one is not far from correct in considering Figure 4 as representing a lizard. It is made of fine grained lava. It was found northwest of Tempe in the ruins.

Figure 10 is a perforated disc. They are very common, and range from 1 inch to 1 foot in diameter. Many theories have been advanced as to their use, but nothing definite is known. It is made of lava and found near Phoenix.

Figure 11 was originally a mano stone, some 9 inches long, 5 inches wide, and 1 inch thick. It has been cut into a grotesque form, and may not be ancient, although it has that appearance. It was bought of the Pima Indians near Mesa. The use of such an object is problematical.

None of the effigies, either animal or human, in degree of workmanship, equal the stone idols found in the Southern States east of the Mississippi. The tribes in the Southwest made superior pottery and were able to work turquoise, but their stone implements, taken as a whole, fall far short of that standard of excellence exhibited in the artifacts of the East.

The strange effigies of the Southwest certainly merit the serious study of Eastern archaeologists. There are large numbers of ruins in the Salado Valley, and these contain no end of strange, "unknown" forms in stone and shell. The field is very broad and the few laborers seem to prefer the modern Zuni and Moqui to the more interesting prehistoric dwellers of the Salado Valley.



FIGURE 9. SIZE 1-3

ANTHROPOLOGY AT THE MEETING OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

SECTION H of the A. A. A. S., which is devoted to Anthropology, had an unusually large attendance at its meeting at Pittsburg from June 30 to July 3. This was partly due to this being the fifty-first meeting of the Association, and hence an important anniversary occasion. Between 30 and 40 papers were presented and discussed by the leading anthropologists of the country. The death of Dr. Thomas Wilson, Curator of Prehistoric Anthropology in the Smithsonian Institution, had, however, removed one of the ablest and, on account of his personal qualities, one of the most beloved of the members.

As was to be expected in the work of a Society of so long standing and of such minute specialization, nothing was brought before it of very startling general interest, but much was done in confirmation of former theories and in laying the foundation for future speculations. Mr. Warren K. Moorehead presented facts from burial places in mounds of glacial gravel in Ohio showing the different degrees of decomposition of the bones buried in these places and those buried in artificial mounds. Prof. C. H. Hitchcock, in describing a shellheap in Ormond, Fla., made it probable that the great auk, which is now limited to northern regions, formerly migrated as far south as the Gulf of Mexico. Mr. George A. Dorsey gave an account of mourning and war ceremonies among Indian tribes which may be of much service when compared with those in other parts of the world in establishing a common ancestry to tribes that are now far scattered. Mr. Boas pointed out that such ceremonies are "perhaps the most permanent activity of primitive man." Prof. G. F. Wright, besides giving an account of anthropological museums in Central Asia, read a paper showing that the extensive climatic changes in Central and Western Asia which are shown by geological considerations to have taken place in recent times, are perhaps correlated with the extensive movements of populations which from the earliest times have evidently started from that region. It is still the most probable theory that the Aryan languages had their origin in Bactria, whence Aryan-speaking people in prehistoric times migrated to India on the one side, and to Persia and Europe upon the other. This too was the probable center for the Mongolo-Tartar races, whose families are found to radiate hence to Malaysia and China on the one side, to Turkey, Hungary and Finland upon the other, and, spreading out over the vast wastes of Siberia, across into America, peopled the western continent. When we come to know the whole history of the great Tartar migrations it is likely that we shall find that the gradual desiccation of the country through the climatic changes had much to do with it all.

Prof. W. C. Mills gave an account of the burials in the Adena Mound, already described in the RECORDS OF THE PAST, and exhibited a human effigy pipe taken from the mound which is one of the most curious that has ever been discovered. From Mr. Walter Hough's report on explorations

in Arizona, it appeared that during the year 1901 sixty ruins had been visited, and 18 excavated, resulting in a collection of 3,000 specimens and the mapping of 24 pueblos. Mr. George H. Pepper showed that a throwing stick found in the Southwest was used by a prehistoric people who occupied a restricted area in Southeastern Utah and Northeastern Arizona. In form it is similar to one still used in Mexico. The officers of the Society elected for the coming year are, Vice-President, George A. Dorsey; Secretary, Roland B. Dixon.

Notes

MR. W. J. SINCLAIR, of the University of California, is carefully studying the "gold bearing gravel of Tuolumne and Calveras Counties," where the famous Calveras skull was found. He is making explorations in the larger caves in this region, hoping to find further evidence of man's occupation of this country before the great lava flows took place.

SIGNOR BONI in following up the discovery of a prehistoric tomb in the Roman Forum has discovered two more tombs, which resemble the first one found and noted in RECORDS OF THE PAST for June. These tombs cannot be examined until a sewer which passes near the site has been diverted. As these tombs date from the VIII or IX centuries B.C. we shall await the completion of the excavation with great interest.

THE METALLURGICAL SKILL of the Ancient Chaldeans and Babylonians is shown by a statuette found in Chaldea, which is about 2200 years old. This statuette "was composed of nearly pure copper containing only a slight proportion of iron." A Chaldean statuette 400 years older than this was composed of "an alloy of 4 parts of copper with 1 part of lead and a trace of sulphur." In Babylon a statuette has been found which is composed of a copper alloy "containing 79.5 per cent of copper, 1.25 per cent of tin, and 0.8 per cent of iron."

WHAT WAS THE OLDEST VESSEL in active service in the world has just been broken up at Teneriffe, Canary Islands. This was an Italian ship the "Anita" of Genoa. It was a curious old vessel of the same type as Christopher Columbus' ship "Santa Maria." It was built in Genoa in 1548, and in March, 1902, made her last trip, which was from Naples to Teneriffe. She had a reputation for being not only a very staunch vessel, but also "the slowest ship afloat, taking 205 days on one voyage from Baltimore, Md., to Rio Janeiro."

BULLETIN 26 of the Bureau of American Ethnology, contains the translation of a number of myths and tales from the Kathlamet dialect by Mr. Franz Boas. These are of special historical importance because so far as Mr. Boas was able to ascertain there are but 3 persons speaking this Indian dialect at the present time, so that it would soon be entirely lost. These tales and myths were told him by Charles Cultee. The Kathlamet dialect is one that was spoken in the neighbor-

hood of Astoria, on the Columbia River, and Mount Rainier. Mr. Boas expects later to have printed a grammar and dictionary of this language "which will contain a comparison of all the known dialects of the Chinookan stock."

DR. MAX UHLE HAS BEEN EXCAVATING at Shell Mound, California, a prehistoric mound, which rises from a low alluvial plain to a height of 29 feet. The original base of this mound is 3 feet below ground, and 2 feet below the present high tide level. This makes it evident that the ground in the neighborhood has sunk at least 2 feet since the mound was started. He has obtained over 600 specimens, including many skeletons. He notes a change in the burial methods employed in the lower layers of the mound and those higher up. Also, a "curious increase in the number of bone implements of finer workmanship, not represented in the upper layers, was visible in the lowest layers."

AT SUSA THE FRENCH explorers M. Pierre de Jecquer and M. Watlin, have profited by the attack, which the natives made on the explorers at Susa some time ago. Formerly all explorers in Persia were compelled by the Persian Government to examine their treasures where they were found, and not to move them from the country. This still holds in all parts of Persia, excepting Susa, where now in recompense for the molestation by the natives, the archæologists are permitted to remove their finds to France. Recently at Susa, M. Pierre de Jecquer and M. Watlin, have unearthed "a large black marble column, covered from head to foot with cuneiform inscriptions, which should throw much light on the history of that ancient capital." This will be removed to France to be deciphered.

THE MEMBERS OF THE EGYPTIAN expedition from the university of California believe that their discoveries made this last winter demonstrate the fact that the "prehistoric Egyptians were the same in race as the Egyptians under the dynastic kings."

"On excavating a cemetery discovered in January, Dr. Reisner found that a lucky chance had led this prehistoric people to bury in a salty bit of ground, and that the bodies were mummified by the soil. Several bodies were found in an almost perfect state of preservation, and examples were unearthed besides of all the delicate external and internal human organs." Most of these bodies were in such fragile condition, however, that they had to be examined on the spot, although it is hoped that one of them may be successfully transported to California. Dr. G. Elliot-Smith of Cambridge, who is a professor in the Khedivial School of Medicine, and a thoroughly trained anatomist was granted two months leave of absence to examine and work up this material.

HARPER'S MAGAZINE for August has a clearly written article upon the "Primeval North-American," by Charles Hallock, M. A. Three of the 6 illustrations are, by permission, from the RECORDS OF THE PAST, including the map appearing in our first number. While the proof of Mr. Hallock's theories will seem to many far from satisfactory, the presentation of them will serve to clarify the atmosphere and to direct intelligent discussion. The closing paragraph gives a synoptical statement of his views:

The primeval peoples of both North and South America originated from a civilization of high degree which occupied the sub-equatorial belt some 10,000 years ago, while the glacial sheet was still on. Population spread northward as the ice receded. Routes of exodus diverging from the central point of departure are plainly marked by ruins and records. The subsequent settlements in Mexico, Arizona, New Mexico, Colorado, Utah, and California indicate the successive stages of advance, as well as the persistent struggle to maintain the ancient civilization against reversion and the catastrophes of nature. The varying architecture of the valleys, cliffs, and mesas is an intelligible expression of the exigencies which stimulated the builders. The gradual distribution of population over the higher latitudes in after years was supplemented by accretions from Europe and northern Asia centuries before the coming of Columbus. Wars and reprisals were the natural and inevitable results of a mixed and degenerating population with different dialects. The mounds which cover the

mid-continental areas, isolated and in groups, tell the story thereof. The Korean immigration of the year 544, historically cited, which led to the founding of the Mexican Empire in 1325, was but an incidental contribution to the growing population of North America. So also were the very much earlier migrations from Central America across the Gulf of Mexico.

DR. REISNER WITH 150 NATIVE diggers has been conducting a very successful series of excavations at Girga. These have been largely conducted in the ruins of houses of the XVIII dynasty. Among the interesting things found within these houses, many of which had gaily painted walls, were chessmen, bronze needles, leather thongs and doll babies. In one of the cemeteries he "found 3 groups of figures of household servants carrying water, making bread, laying bricks, keeping flies off food, and cooking,—in all 10 figures. This discovery was of peculiar interest from the fact that it was the first time for 15 or 20 years that such things had been found in position by Europeans."

In a funerary chamber around a man's coffin dating from the V dynasty, he found 19 wooden statuettes which "represented the dead man, his wife and his sons and daughters." The men were red skinned, the woman and girls yellow. The height of the figures of adults averaged 45 centimeters (17½ inches).

Among the other antiquities found at Girga were a coffin containing the mummy of a girl of the VI dynasty, at her feet a delicate wooden box containing a beautifully preserved net for the hair; two ships of the dead of the VI dynasty, fully manned, with a captain and 6 rowers, a helmsman, a coffin, a reading priest, and a wailing woman, and in the same niche in a rock tomb a smaller wooden statuette of the dead man; a bundle of linen garments of the IV dynasty; a very full collection of early XVIII dynasty pottery, comprising more than 400 pieces; 25 small pots of alabaster and blue marble; half a dozen bronze knives and razors; 30 scarabs; a girdle of 3 strands of beads,—white, black and green; a four-legged toilet box containing a stone pot; an alabaster pot, closed with mud, bearing a seal impression; an alabaster kohl pot; a rattle of baked clay in a little girl's grave, and a necklace of small gold circular beads.

SECOND INTERNATIONAL AMERICAN CONFERENCE.—The delegates from the different republics of America who assembled the first of this year in the city of Mexico, in the Second International American conference, drew up the following recommendation which it is hoped will bear some definite fruit.

The Second International American Conference recommends, to the Republics here represented, that an "American International Archæological Commission" be formed, through the appointment, by the President of each of the American Republics, of one or more members of such commission; that each Government represented shall defray the expenses of its Commissioner or Commissioners; that such Commissioners shall be appointed for 5 years, and that they shall be subject to reappointment; that appropriations for the expenses incident to the prosecution of the work and the publications of the report of the Archæological Commission shall be made by the respective Governments subscribing, on the same basis as that on which the Bureau of the American Republics is supported; that the first meeting for the organization of the Commission, the election of officers and adoption of rules shall occur in the city of Washington, District of Columbia, United States of America, within two years from this date; that the Accounting Department of the Commission shall be exercised by the Bureau of the American Republics; that this Commission shall meet at least once in each year; that the Commission shall have the power to appoint sub-commissions, which shall be charged specially with the explorations or other work committed to their care; that sub-commissions may be appointed which shall cause the clearing [excavation] and preservation of the ruins of the principal prehistoric cities, establishing at each of them a museum to contain objects of interest found in the locality, and at such exhumed cities to establish conveniences for the visiting public; that the Commission endeavor to establish an "American International Museum" which is to become the center of all the investigations and interpretations and that it be established in the city selected by the majority of the Republics acquiescing in this recommendation.

Committees shall also be appointed to clean [excavate] and conserve the ruins of ancient cities, establishing in each of them a museum to contain the antiquities that may be gathered, and which is to afford all possible accommodations to visitors.

The Archæological Commission and the sub-committees it may appoint will be subject in all matters to the laws of the signatory countries.

Made and signed in the City of Mexico, on the 29th day of the month of January, one thousand nine hundred and two, in three copies, in Spanish, English and French, respectively, which shall be deposited in the Department of the Foreign Relations of the Government of the United States of Mexico, in order that the certified copies thereof be made to be forwarded through diplomatic agency to each of the signatory States.

THE DECORATIONS on a Megarean bowl found at Thebes, now in the British Museum, are described in the last *Journal of Hellenic Studies* [vol. xxii, Pt. I, 1902]. The subject of the design is a familiar one, The Rape of Proserpine, but has some new and interesting features. The two stages of the myth depicted are separated by a stelè, which has inscribed on it ΕΥΣΕΒΩΣ, indicating that it marks the "entrance to the abode of the blessed." On the right of the stelè is figured what took place on the earth. Here "is seen the chariot of Pluto approaching, preceded by Hermes and followed by the irate goddesses, Demeter, Athenè, Hecatè and Artemis." The scene to the left of the stelè is in Hades. Here a boy, standing among the reeds, is playing the pipes while beyond him to the left are "two of the Danaïdes with their pitchers." The pipe or flute player differs from the usual representation in this myth, in that he has two small horns on his head, showing that he must be "a young Pan" although dressed in ordinary clothes.

When Persephone arrived in Hades she was believed to have found meadows there as rich and flowery as those of Henna from which she had been so rudely carried off. These flowery meadows are made the most of on the vase. It does not appear, however, that the scene of the chase—two hares and two hounds—under the chariot of Pluto and therefore on earth, is continued in the meadows of the lower world. As compared with the two swans in the terrestrial scene we find only one in Elysium.

In connection with this representation of the exit from this world it is interesting to note that in Sicily "the exit was through a cave," while in one fragmentary vase design from Eleusis "the chariot of Pluto is seen plunging down into the earth, half lost to sight."

THE GONG AT DODONA.—Mr. Arthur B. Cook in a recent article on the Gong at Dodona discusses at length the evidence bearing on its form and "function." The fame of this gong has been handed down to us in the proverbs which were current 2200 years ago, in which talkative persons were compared to "the gong at Dodona." Menander (342-291 B. C.) refers to it in the following remark:

Give this creature Myrtilè the merest touch or simply call *nurse*, and there's no end to her talking. To stop the gong at Dodona, which they say sounds all day if a passer-by lays a finger on it, would be an easier job than to stop her tongue; for it sounds all night as well.

In one of the most reliable descriptions of this gong, by Demon (about 308 B. C.) it is represented as consisting of a "ring of tripods or caldrons placed so closely together that, if one were knocked, the vibration would go echoing on round the whole series." On the other hand, Aristotle described it as having consisted of two columns "supporting respectively a caldron, and a boy grasping a whip whose bronze lashes, when swayed by the wind, struck the caldron and produced a reverberant sound." After a full presentation and discussion of the varying descriptions of this gong he concludes by saying:

To sum up. I have endeavored to prove that the gong at Dodona had two forms, an earlier and a later. At first it consisted in a series of resonant tripods arranged round the oracular shrine in such a way as to keep up a constant hum of bronze. Subsequently these tripods were replaced by a more elaborate gong—a *lebes* and a *mastigophoros* of bronze, each standing on its own pedestal, and so placed that the wind would cause a continuous vibration. . . . In its original shape, the sound of the bronze that echoed round the sacred precinct served to scare away all evil influences. Later on its prophylactic virtues were intensified by the addition of the Corcyrean whip and safe-guarded by its elevation on a couple of columns.

HOMERIC SOCIETY.—Mr. Lester F. Ward in reviewing Mr. Keller's book entitled, *Homeric Society. A Sociological Study of the Iliad and Odyssey* in the *American Anthropologist*, sums up the social conditions of that time in the following words:

The Homeric Greeks rated themselves as an inferior race, and looked to the far East for culture and refinement. They were an advanced race only in a relative sense, when, for example, they compared themselves with the Cyclopes and Lastrygonians, who were reputed to be cannibals. The culture of the East was brought to Greece chiefly through the Phœnicians (Phœaciens), who were the traders of the world, and therefore despised, but upon whom the Greeks were wholly dependent for all civilizing elements. Most manufactured or artificial products were brought from the East by the Phœnicians, but the Greeks could

exchange for them fabrics, especially linen, papyrus-made articles, wines, oil, and certain prepared spices, incense, perfumes, dyes, drugs, etc., the raw materials for which came mainly from Egypt. Cattle were the chief staple, but cows were not milked. Sheep and swine were also common. Horses were used only for travel and in war, and in the latter case were never ridden, but always harnessed to war chariots. 'Fowls were kept as pets, eggs are not mentioned.' Early as is the potter's art everywhere, it seems to have been nearly unknown in Greece at that date, but baskets were woven. Counting and recounting were done on the fingers by the decimal system. . . .

There was no circulating medium, and the ox was the standard of value. Property was wholly insecure and every man must defend his own by force. Theft was honorable if successful, and murder for booty was legitimate, and to be avenged by the relatives of the murdered man. The author has logically classed marriage after property, for marriage was only a mode of transferring property in women. All women were property and most of them were slaves. . . . Skilled labor and all productive work was honorable, and the greatest men worked and boasted of it. But work for a wage was detestable, and the wage worker was far worse off than the slave. . . . Mercantile business was severely condemned as mean, and was left almost entirely to the Phœnicians who would penetrate the country and peddle their wares.

CYZICUS.—The ruins of this old city of Asia Minor have had but little attention paid them since 1836 when Marquardt published his work *Cyzicus und sein Gebiet*. There have been numerous travelers and archæologists who have visited the place but very little excavating has been done. Mr. Robert de Rustafjaell has recently presented a short account of his observations made during a somewhat extended visit to this old city whose granite walls and marble pillars have furnished material for Byzantine churches, Mussulman mosques and "the extensive arsenal at Constantinople."

Cyzicus, although now on a peninsula, was once on an island which Strabo described as being "500 stadia in circumference."

Of the earliest period of Cyzicene history, very few remains are now traceable above ground. The Cyclopean walls of Artace, where the Argonauts landed on their way to Colchis, are still standing 20 feet wide and in a fair state of preservation on a small peninsula, the modern St. Simeon; and in the immediate vicinity, to the north of Artace, is an ancient well which bears the local name of the "Well of the Argonauts." . . . Another site associated in legend with the Argonauts is Mount Dindymene, on the summit of which, 2430 feet above the sea level, they are said to have built a temple to the mother of the gods; ruins may still be traced here, but await investigation.

There have been a great many inscriptions found at Cyzicus but strange to say, "only a few can be assigned to a period before the Roman epoch, and none before the III century B. C." The city was continuously inhabited until 1063, when it was visited by an earthquake which not only destroyed the city, but cut off its fresh water supply and thus rendered its rebuilding useless. Now underbrush has grown over the ruins so that they are scarcely noticeable from a short distance away. Vandals have done most of the excavating. "A splendid sarcophagus of the Roman period was unearthed some 3 years ago" by a number of peasants who removed the contents, but left the sarcophagus with its lid partly removed, the whole being partly buried in the ground. The remains of one of the city gates is still intact and stands "20 feet high by 10 wide." The southern wall of the city was of granite and in places it still stands 30 feet high and 15 feet thick. An old Roman aqueduct which was built to bring water from the mainland now consists of a disconnected line of masonry, the earthquakes having ruined it in the XI century. Inside the city there are many evidences that there was once a very complete water system which threaded the streets.

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